and a casing including a body having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the longer recess and second locking recess,

a cam to control the balls, and a coupler to facilitate operable coupling between the cam and the cylinder,

the coupler being mountable within the body to provide a Type 1 padlock characterized by an unlocked, open configuration where the short leg is free of the casing, the longer leg is supported in the casing and the key is removable,

the coupler being mountable within the body to provide a Type 2 padlock characterized by an unlocked, open configuration where the short leg is free of the body, the longer leg is supported in the body casing and the key and barrel cannot be rotated to the undisplaced position to enable key removal,

wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with the cam axis of rotation and which is parallel with and between the longitudinal axii of the short and longer recess in the casing,

the first cam portion having a removal configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg, wherein the coupler includes fingers and the cam includes opposing pairs of shoulders, said opposing pairs of shoulders separated by a bridge that spans a distance of the cam, said distance being the substantial diameter of a bottom portion of the cam which is orthogonal to an axis of rotation of the cam and is nearest to the second end surface of the casing, each finger in the removal configuration of the cam abutting an associated drive shoulder,

and wherein the cam is rotatable in the unlocking direction to the removal configuration, said rotation of the cam rotatable to a stopping point,

said removal configuration corresponding to the long leg being capable of being free of the casing,

said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to

the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess or partly within the peripheral recess.

38. (Amended) A padlock, including a shackle having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said opposed second locking recess being connected by a longitudinally elongated recess to a peripheral recess disposed towards the end of the longer leg,

and a casing having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first and a second vertically longitudinally elongated cusp portion, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the longer recess and second locking recess,

a cam to control the balls,

the angular disposition of the cam in the locking and unlocking configurations being determined by a stop comprising a disc-like member supported coaxially with and relative to the cam, and being angularly displaceable relative to the cam, and having a stop shoulder which protrudes into the offset recess, said stop having a first operative configuration where the stop shoulder abuts the wall of the offset recess adjacent the first cusp and a second operative configuration where the stop shoulder abuts the opposite wall of the offset casing adjacent the second cusp,

the padlock being characterized by:

a closed, locked configuration corresponding to the stop being in the first operative configuration, the short and longer legs being supported in the casing and restrained from displacing relative to the casing, the cam being in a locking configuration and retaining the first ball partly within the first locking recess and the second ball being partly within the second locking recess,

the cam and stop member being rotateable in an unlocking direction by the cylinder to displace the padlock to an unlocked configuration, and an open, unlocked configuration corresponding to the stop being in the second operative configuration, the short leg being free of the casing, the longer leg being supported in the casing, the cam being in an unlocking configuration and retaining the second ball partly within the longitudinally elongated recess or partly within the peripheral recess,

and wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with

the cam axis of rotation and which is parallel with and between the longitudinal axii of the short and longer recess in the casing,

wherein the first cam portion has a removal configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

the cam being rotatable in the unlocking direction to the removal configuration while the stop remains in the second operative configuration, said removal configuration corresponding to the long leg being capable of being free of the casing, and wherein the disk-like member includes fingers, each of said fingers in the removal configuration of the cam abutting an associated drive shoulder of said cam, the cam further including opposing pairs of shoulders, said opposing pairs of shoulders separated by a bridge that spans a distance of the cam, said distance being the substantial diameter of a bottom portion of the cam which is orthogonal to an axis of rotation of the cam and is nearest to the second end surface of the casing,

said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess or partly within the peripheral recess.

39. (Amended) A padlock, including a shackle having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said opposed second locking recess being connected by a longitudinally elongated recess to a peripheral recess disposed towards the end of the longer leg,

and a casing comprising a body and having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface,

and an intersection intersecting the central recess, the intersection defining a first and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the longer recess and second locking recess,

a cam to control the balls, and a coupler to facilitate operable coupling between the cam and the cylinder,

the coupler being mountable within the body to provide a Type I padlock characterized by an unlocked, open configuration where the short leg is free of the casing, the longer leg is supported in the casing and the key is removable,

the coupler being mountable within the body to provide a Type 2 padlock characterized by an unlocked, open configuration where the short leg is free of the body, the longer leg is supported in the body casing and the key and barrel cannot be rotated to the undisplaced position to enable key removal,

wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with the cam axis of rotation and which is parallel with and between the longitudinal axii of the short and longer recess in the casing, and wherein the first cam portion is integrally connected to a cam drive portion relatively disposed towards the casing second end surface,

and wherein said drive portion comprises two opposed drive recesses having coplanar floors wherein the plane of the drive recesses is orthogonal to the axis of rotation of the cam, said drive recesses being on opposite sides of the cam axis of rotation and being separated by a bridge comprising opposed walls, each wall having a first engageable drive shoulder at one end and a second engageable shoulder at the other end, said bridge having opposed cylindrical portions to support a disc-like member which has an aperture of substantially circular cross-section interrupted by at least one inwardly protruding finger engageable with the first drive shoulder, wherein each finger abuts the first drive shoulder when the cam is in the locked and unlocked configurations,

said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess or partly within the peripheral recess,

wherein the first cam portion has a removal configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

said removal configuration corresponding to the long leg being capable of being free of the casing.

40. (Amended) A padlock, including a shackle having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said opposed second locking recess being connected by a longitudinally elongated recess to a peripheral recess disposed towards the end of the longer leg,

and a casing having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the

casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface,

and an intersection intersecting the central recess, the intersection defining a first and a second vertically longitudinally elongated cusp portion, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position, said undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the longer recess and second locking recess,

a cam to control the balls,

an angular disposition of the cam in both a locking and unlocking configuration of the padlock being determined by a stop comprising a disc-like member supported coaxially with and relative to the cam, and being angularly displaceable relative to the cam, and having a stop shoulder which protrudes into the offset recess, said stop having a first operative configuration where the stop shoulder abuts the wall of the offset recess adjacent to the first cusp and a second operative configuration where the stop shoulder abuts the opposite wall of the offset casing adjacent to the second cusp,

the padlock being characterized by:

a closed, locked configuration corresponding to the stop being in the first operative configuration, the short and longer legs being supported in the casing and restrained from

displacing relative to the casing, the cam being in a locking configuration and retaining the first ball partly within the first locking recess and the second ball being partly within the second locking recess,

the cam and stop member being rotateable in an unlocking direction by the cylinder to displace the padlock to an unlocked configuration, and

an open, unlocked configuration corresponding to the stop being in the second operative configuration, the short leg being free of the casing, the longer leg being supported in the casing, the cam being in an unlocking configuration and retaining the second ball partly within the longitudinally elongated recess or partly within the peripheral recess,

and wherein the cam includes a first cam portion comprising a substantially cylindrical portion defined by a peripheral, side, curved surface and having a longitudinal axis coaxial with an axis of rotation of the cam and which is parallel with and between longitudinal axii of the short and longer recess in the casing, and wherein the first cam portion has a removal configuration enabling the removal of the shackle,

said cam in a locking configuration presenting the curved surface to each ball to retain the balls in the locking recesses,

said cam in the unlocking configuration presenting a longitudinally elongated, side, first unlocking recess to the first ball and a longitudinally elongated, side, second unlocking recess to the second ball to enable the first ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess or partly within the peripheral recess,

and wherein the cam in the removal configuration presents a longitudinally elongated, side, third recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

and wherein the cam is rotatable in the unlocking direction to the removal configuration while the stop member remains in the second operative configuration,

said removal configuration corresponding to the long leg being capable of being free of the casing,

and further wherein the cam includes opposing pairs of shoulders, said opposing pairs of shoulders separated by a bridge that spans a distance of the cam, said distance being the substantial diameter of a bottom portion of the cam which is orthogonal to an axis of rotation of the cam and is nearest to the second end surface of the casing.

42. (Amended) A padlock, including a shackle having a short leg with a first locking recess and a longer leg having an opposed second locking recess, said opposed second locking recess being connected by a longitudinally elongated recess to a peripheral recess disposed towards the end of the longer leg,

and a casing having a short and a longer recess extending into the casing from a first end surface to accept the short and longer shackle leg respectively, a central recess extending into the casing from an opposed second end surface, an offset recess extending into the casing from the opposed second end surface and intersecting the central recess, the intersection defining a first

and a second longitudinally elongated cusp portions, said short, longer and central recesses being intersected by a transverse recess extending into the casing from a first side of the casing,

a cylinder having a key operable barrel characterized by an undisplaced position enabling key removal,

two opposed balls supported within the transverse recess; a first ball able to protrude into the short recess and first locking recess and a second ball to protrude into the longer recess and second locking recess,

a cam including a first cam portion to control the balls and a cam drive portion that includes at least two drive recesses separated by spaced drive shoulders, said spaced drive shoulders including a first drive shoulder and a second drive shoulder for each drive recess,

the cam operable by the barrel through an interspaced coupler that projects into holes within the cam while being supported in a barrel drive recess to provide a Type 2 padlock,

the cam being further operable by the barrel through an interspaced coupler that projects into at least one of the at least two drive recesses separated by the spaced drive shoulders of the cam without projecting into said holes within the cam while being supported in a barrel drive recess to provide a Type 1 padlock,

said Type 1 padlock being characterized by an open configuration where the short leg is free of the casing, the longer leg is supported in the casing and the key is removable,

said Type 2 padlock being characterized by an open configuration where the short leg is free of the body , the long leg is supported in the body casing and the key and barrel cannot be rotated to the undisplaced position to enable key removal.

43. (Amended) A padlock according to claim 42, wherein the first cam portion comprises a substantially cylindrical portion having a peripheral curved side surface defined in part by a longitudinal axis coaxial with an axis of rotation of the cam and which is parallel with and between longitudinal axii of the short and longer recess in the casing,

said cam in a locking configuration presenting the curved side surface to each ball to retain each ball in its corresponding locking recess,

said cam in the unlocking configuration presenting a longitudinal elongated, first unlocking side recess to the first ball and a longitudinally elongated second unlocking side recess to the second ball to be removed from the first locking recess and the second ball to be partly removed from the second locking recess and be retained partly within the longitudinally elongated recess or partly within the peripheral recess.

44. (Amended) A padlock according to Claim 42, wherein the angular disposition of the first cam portion in the locking and unlocking configurations is determined by a stop member being mechanically part of the motion of the cam, said stop member being an outwardly projecting finger of the disc-like member supported coaxially with and relative to the first cam portion, said stop member protruding into the offset recess, said stop member being displaceable between a first operative configuration where the outwardly projecting finger abuts the wall of the offset recess adjacent the first cusp and a second operative configuration where the outwardly projecting finger abuts the opposite wall of the offset casing

the padlock being characterized by:

a locked configuration corresponding to the stop member being in the first operative configuration, the short and longer legs being supported in the casing and restrained from displacing relative to the casing, the cam being in a locking configuration retaining the first ball partly within the first locking recess and the second ball being partly within the second locking recess,

the cam and stop member being rotateable in an unlocking direction by the cylinder to displace the padlock to an unlocked configuration, and

an open, unlocked configuration corresponding to the stop being in the second operative configuration, the short leg being free of the casing, the longer leg being supported in the casing, and the cam being in an unlocking configuration retaining the second ball partly within the longitudinally elongated recess or partly within the peripheral recess.

45. (Amended) A padlock according to Claim 42, configured as a Type 1 padlock, wherein the coupler is displaceable about an axis of rotation of the barrel to displace the cam to the unlocking configuration and the barrel and key to subsequently be returned to the undisplaced position while a drive pin correspondingly displaces freely within the space between the drive shoulders.

46. (Amended) A padlock according to Claim 42, configured as a Type 2 padlock, wherein the coupler is displaceable about an axis of rotation of the barrel to displace the cam to

the unlocking configuration whereupon the barrel and key become restrained from displacing to the undisplaced position.

47. (Amended) A padlock according to Claim 45, wherein the coupler comprises an opposed pair of drive pins supported by the barrel,

said drive pins having passage through while being supported in a support disc to comprise the coupler, the drive pins being configured to protrude more from one side of the support disc than the other and additionally being configured so that when assembled into the padlock casing with the longer ends towards the cam, they protrude into the holes in the cam whereby to provide a Type 2 padlock, and when assembled into the padlock casing with the shorter ends towards the cam, the drive pins protrude into the space between the drive shoulders but not into the holes in the cam whereby to provide a Type 1 padlock.

48. (Amended) A padlock according to Claim 43, wherein the first cam portion has a removable configuration enabling the removal of the shackle, the cam in the removal configuration presenting a longitudinally elongated third side recess, deeper than the second recess, to the second ball to enable the second ball to be removed from all the recesses of the longer leg,

said removal configuration corresponding to the long leg being capable of being free of the casing.

49. (Amended) A padlock according to Claim 43, including a torsion spring supported about a bridge, said bridge comprised of said drive shoulders, said torsion spring having one end attached to the cam and another end within the offset recess to bias the cam towards the locking configuration.

51. (Amended) A padlock according to Claim 42, wherein the cylinder is removable to provide accessibility to the cam to enable it to be displaced to a removal configuration wherein the shackle is removeable.

54. (Amended) A padlock according to Claim 42, wherein the cylinder is removeable, said cylinder possessing a number of transverse pin chambers in a housing, said pins extending from a portion of the outer surface of the housing to meet coaxially with a pin chamber in the barrel when the key is removed,

further including apertures at the surface of the pin chambers wherein the apertures are plugged with a resilient material, said resilient material comprising plastic extensions which extend from one pin chamber aperture to the next, filing all pin chamber apertures,

said resilient material being radially compressible and exerting a radial force on the walls of the apertures of the pin chambers, and

being removeable for re-pinning of the pin chambers and re-insertable when re-pinning of the pin chambers is accomplished.

58. (Amended) A padlock shackle according to Claim 56, wherein a cross-section of the channel is defined by a radius substantially the same as the radii of the balls.